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## REMARKS

Claims 1, 2, 4, 6-9, 11-12, 14-15, and 17-34 are pending in the present application. Claim 26 has been amended. Claims 1, 2, 4, 6-9, 11-12, and 14-15 have been canceled, leaving Claims 17-34 for consideration upon entry of the present amendment. Claim 26 has been amended to include the additives disclosed on page 30 of the application as originally filed. Page 20 and page 30 of the Specification has been amended to correct typographical errors. No new matter has been added by the amendments. Reconsideration and allowance of the rejected claims is respectfully requested in view of the preceding amendment and the following remarks.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 26-31 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regards as the invention. In particular, the Examiner alleges the phrase "at least one additive" renders the claim indefinite. (Office Action, 06/25/2003, page 3) Claim 26 has been amended to contain the additives disclosed on page 30 of the application as originally filed. Accordingly, Applicants respectfully request reconsideration and removal of the § 112 rejections over Claim 26.

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Claim Rejections Under 35 U.S.C. § 102(c)

Claims 1-2, 6, 8, 11-12, and 15 stand rejected under 35 U.S.C. § 102(c), as allegedly anticipated by U.S. Patent No. 6,388,046 to Campbell et al. (Campbell) or U.S. Patent No. 6,448,307 to Medoff et al. (Medoff). Claims 1-2, 6, 8, 11-12, and 15 have been canceled with the present amendment.

Claim Rejections Under 35 U.S.C. § 102(b) or (e)

Claims 17, 19, 20, 23, 24-26, 28, and 29 stand rejected under 35 U.S.C. § 102(b) or (e), as allegedly anticipated by Campbell or U.S. Patent No. 5,165,990 to Nakano et al. (Nakano).

Independent Claims 17, 23, and 26 are directed to a plastic pallet comprising or consisting of a polyphenylene ether resin, a high impact polystyrene, at least one flame retardant in an amount sufficient to impart a degree of flame retardancy to the pallet to pass UL 2335 protocol for pallets and at least one impact modifier; wherein the pallet meets or exceeds Underwriters Laboratory UL 2335 protocol for pallets, or a method of making such a pallet.

Campbell generally discloses compositions comprising a thermoplastic resin and at least one phosphoramidate having a glass transition point of at least about 0° C, articles made from the compositions, and methods of making the composition.

Nakano generally describes a stampable sheet comprising a syndiotactic styrene polymer and fibrous filler.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

Applicants respectfully contend that both Campbell and Nakano fail to teach each and every element of independent Claims 17, 23, and 26. Both references fail to teach a pallet that meets or exceeds the Underwriters Laboratory UL 2335 protocol for pallets or, alternatively, fail to teach at least one flame retardant in an amount sufficient to impart a degree of flame retardancy to the pallet to pass UL 2335 protocol for pallets. Applicants

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respectfully argue that the element that the present pallets meet or exceed UL 2335 is an element that defines the present pallets apart from other plastic pallets, even those that possess some flame retardancy. Not all plastic pallets meet the requirements of UL 2335 (see attached article regarding UL plastic pallet classification for fire hazards obtained from [www.ul.com/auth/tca/v7n1/fuel.html](http://www.ul.com/auth/tca/v7n1/fuel.html); The Code Authority, Vol. 7, No. 1, 1998):

Many different types of plastics are used to make pallets. Most plastics burn hotter and faster than wood, but some plastics can be engineered to perform equally well or better than wood pallets during a fire in idle storage and commodity classification tests. However, not all plastics are created equal Recent changes in the 1998 editions of NFPA 231 and NFPA 231C allow some "NFPA listed" plastic pallets to be regulated like wood pallets, if test data can demonstrate that the burning and suppression characteristics of plastic pallets are equivalent to or better than wood pallets.

(emphasis added)

Although there are "many different types of plastics" for pallets, Underwriters Laboratories Inc., a leader in product safety testing and certification, has determined that "pallets manufactured by GE Plastics, of Pittsfield, Mass. were the first to earn certification under UL's Plastic Pallet Classification Program". (emphasis added; [www.ul.com/auth/tca/v7n1/fuel.html](http://www.ul.com/auth/tca/v7n1/fuel.html)) It is significant because of the number of available plastic pallets at the time of testing, GE's plastic pallets were the first to pass the new Standard UL 2335. Applicants respectfully argue that the element of the Claims that the present pallets meet or exceed UL 2335 is a limitation that defines the present pallets apart from other plastic pallets. Accordingly, since both Campbell and Nakano fail to teach each and every element of independent Claims 17, 23, and 26 or their dependent claims, the Applicants respectfully request reconsideration and removal of the 35 U.S.C. § 102(b) and (e) rejections of Claims 17, 19, 20, 23, 24-26, 28, and 29.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1, 2, 4, 6-9, 11-12, and 14-15 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Campbell or Medoff in view of U.S. Patent No. 5,283,313 to Yamashita et al. (Yamashita) or U.S. Patent No. 5,157,065 to Fuhr et al. (Fuhr), further in

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view of U.S. Patent No. 3,405,666 to Miller, U.S. Patent No. 3,814,031 to Fowler (Fowler '031), U.S. Patent No. 3,951,078 to Fowler et al. (Fowler '078), U.S. Patent No. 4,007,694 to Fowler et al. (Fowler '694), or U.S. Patent No. 5,492,069 to Alexander et al. (Alexander). Claims 1, 2, 4, 6-9, 11-12, and 14-15 have been canceled with the present amendment.

Claims 17-34 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Nakano or Campbell in view of Abolins U.S. Patent No. 4,692,490, Haaf et al. U.S. Patent No. 4,355,126 (Haaf '126), Haaf et al. U.S. Patent No. 4,191,685 (Haaf '685) or Fujii et al., U.S. Patent No. 5,334,636 (Fujii), further in view of Miller, Fowler '031, Fowler '078, Fowler '694, or Alexander.

Abolins generally describes a flame retardant polyphenylene ether composition containing high impact polystyrene. Polybrominated diphenoxybenzene and antimony are used as the flame retardant combination. Abolins fails to teach pallets.

Haaf '126 generally describes flame retardant, non-dripping compositions of polyphenylene ether resins or acrylonitrile-butadiene-styrene copolymers. Haaf '126 fails to teach pallets.

Haaf '685 generally describes compositions of polyphenylene ether, aromatic phosphate, aromatic halogen compound and an impact modifier comprising diene polymer. Haaf '685 fails to teach pallets.

Fujii generally describes a thermoplastic composition comprising a polyphenylene ether resin and optionally a styrene resin and optionally an impact strength improving polymer. Fujii generally teaches a flame retardant as a conventional additive, but fails to teach pallets.

Miller generally describes a pallet assembly. Miller fails to teach polyphenylene ethers or blends of polyphenylene ethers and it does not teach flame retardants

Fowler ('078) generally describes a plastic pallet. Fowler ('694) generally describes a unitary plastic pallet. Fowler ('031) generally describes a plastic pallet. None of the Fowler references teach polyphenylene ethers or blends of polyphenylene ethers and none

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teach flame retardants.

Alexander generally describes a polymer pallet assembly. Alexander does not teach polyphenylene ethers or blends of polyphenylene ethers and it does not teach flame retardants.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Applicants respectfully bring to the Examiner's attention that Campbell was at the time the invention was made, commonly owned by the same person or subject to an obligation of assignment to the same person and is, therefore, not prior art against the claimed invention under § 102(e)/103. As described in the Manual of Patent Examining Procedure (MPEP) at 706.02(I)(1),

Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." This change to 35 U.S.C. 103(c) applies to all utility, design and plant patent applications filed on or after November 29, 1999, including continuing applications filed under 37 CFR 1.53(b), continued prosecution application filed under 37 CFR 1.53(d), and reissues...The mere filing of a continuing application on or after November 29, 1999, with the required evidence of common ownership, will serve to exclude commonly owned 35 U.S.C. 102(e) prior art that was applied, or could have been applied, in a rejection under 35 U.S.C. 103 in the parent application.

(emphasis added). The present application was filed as a Continued Prosecution Application on November 29, 2000. Attached to the present Amendment is a Statement of Common

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Ownership of the present application and Campbell. The Applicants respectfully request removal of Campbell as prior art under § 102(e)/103.

Applicants respectfully argue that the combination of Nakano in view of Abolins, Haaf '126, Haaf '685, or Fujii, further in view of Miller, Fowler '031, Fowler '078, Fowler '694, or Alexander fails to teach or suggest each and every element of independent Claims 17, 21, 23, or 26. None of the references teach or suggest a pallet that meets or exceeds the Underwriters Laboratory UL 2335 protocol for pallets or, alternatively, to teach at least one flame retardant in an amount sufficient to impart a degree of flame retardancy to the pallet to pass UL 2335 protocol for pallets, both elements required by the Claims. Accordingly, since the references fail to teach each and every element of the independent claims, the Applicants respectfully request reconsideration and removal of the 35 U.S.C. § 103(a) rejections of Claims 17-34.

Furthermore, none of the references teach or disclose injection molding polyphenylene ether pallets as is required by Claims 23-25. Claim 23 reads:

A method for making a plastic pallet comprising: injection molding a composition comprising polyphenylene ether resin; a high impact polystyrene; at least one flame retardant in an amount necessary to impart a degree of flame retardancy to the pallet to pass the UL 2335 protocol for pallets; at least one impact modifier; wherein the pallet meets or exceeds Underwriters Laboratory UL 2335 protocol for pallets.

Nakano teaches stampable sheets that may be formed into pallets, but Nakano does not teach injection molding pallets. As none of the references teach or suggest the claim element of an injection molded pallet comprising polyphenylene ether resin, high impact polystyrene, at least one flame retardant in an amount necessary to impart a degree of flame retardancy to the pallet to pass the UL 2335 protocol for pallets, at least one impact modifier, wherein the pallet meets or exceeds Underwriters Laboratory UL 2335 protocol for pallets, Claims 23-25 have not been rendered obvious. Accordingly, the Applicants request reconsideration and removal of the § 103(a) rejections of Claims 23-25.

Notwithstanding the arguments above, the Applicants believe that the claimed invention is not obvious as there was a long-felt, but unmet need for pallets exhibiting fire

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resistant characteristics equal to or better than wood pallets. As described in the enclosed copy of the Underwriters Laboratories article "Adding Fuel to the Fire? UL Classifieds Plastic Pallets for Fire Hazard", wooden pallets are common, but pose a "severe fire threat". ([www.ul.com/auth/tca/v7n1/fuel.html](http://www.ul.com/auth/tca/v7n1/fuel.html); The Code Authority, Vol. 7, No. 1, 1998) Also, plastic pallets available at the time of the article (1998) also posed a "severe fire threat" resulting in the strict regulation of their use in warehouses according to model building codes. (Id., page 1) In fact, the "[r]equirements for generic plastic pallets are much more severe than those for wood." (Id.) Such requirements included sufficient sprinkler protection, often requiring the warehouse to add additional sprinklers at a considerable cost. Also stacking configurations of idle pallets are also regulated limiting the height the plastic pallets could be stacked. Although the plastic pallets of the time provided ease of cleaning and recycling compared to wooden pallets, the regulations imposed due to the fire threat was a hindrance to the widespread use of plastic pallets.

UL 2335 Classification Flammability of Plastic Pallets is a protocol for the classification of plastic pallets for fire hazards. Plastic pallets that pass UL 2335 must "perform better or equal to wood pallets" in two tests: idle storage and commodity classification tests. The benefit of passing UL 2335 is that the plastic pallets are allowed to be regulated like wood pallets. The plastic pallets manufactured by GE Plastics, Pittsfield MA were the first to earn certification under UL's Plastic Pallet Classification Program (UL 2335). (Id., page 2) As mentioned, GE Plastics is the Assignee of the present application. It is significant that GE's pallets were the first to pass the UL 2335 protocol by Underwriters Laboratories as the new pallets meet a long-felt need, providing an alternative to both wood and other plastic pallets. The pallets that meet UL 2335 can be regulated the same as wood pallets without the need for meeting the strict regulations imposed for the traditional plastic pallets. With the current pallets, warehouses can seamlessly switch from wooden pallets to UL 2335 rated plastic pallets without a change in sprinkler systems or stacking configurations, while at the same time benefiting from the advantages of easy clean-up and recycling. The Applicants respectfully argue that Claims 17-34 have not been rendered obvious as they claim pallets that meet a long-felt need. Accordingly, the Applicants request reconsideration and removal of the obviousness rejections of Claims 17-34.

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Based on the foregoing arguments, the Applicants respectfully request reconsideration and removal of the § 102(b and e) and § 103(a) rejections for Claims 17-34.

The Applicants would like to bring to the attention of the Examiner the PTO Form 1449. The references cited therein have been provided in a previous Form 1449 filed January 11, 2001, but were not considered by the Examiner's predecessor, Examiner V. Hoke. The Applicants would like to point out that U.S. Patent No. 3,814,869 to De Luca as cited in the original Form was a typographical error and should read U.S. Patent No. 3,847,869 to William, III. Also, U.S. Patent No. 4,254,775 to Axelrod should read 4,154,75. The Applicants respectfully invite the Examiner to consider the references cited in the current Form 1449 and return an initialed copy with the next substantive action.



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It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862 maintained by Assignee.

Respectfully submitted,

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## Adding fuel to the fire?

### UL Classifies plastic pallets for fire hazards

Every year, the United States produces more than 400 million storage pallets. Most of them are made from wood, but soon many of the new pallets will be made from plastic. Why? Because plastic is easier to clean and recycle.

Unfortunately, wood and plastic pallets also pose a severe fire threat, and their use in warehouses is strictly regulated by model building codes. NFPA 231, Standard for General Storage, and NFPA 231C, Standard for Rack Storage of Materials, both contain allowances for storage on plastic pallets. There are also separate requirements for idle or empty pallets, as well as protection of the commodities stored on pallets, such as providing sufficient sprinkler protection and stacking configurations. Requirements for generic plastic pallets, however, are much more severe than those for wood.



Many different types of plastics are used to make pallets. Most plastics burn hotter and faster than wood, but some plastics can be engineered to perform equally well or better than wood pallets during a fire in idle storage and commodity classification tests.

However, not all plastics are created equal. Recent changes in the 1998 editions of NFPA 231 and NFPA 231C allow some "NFPA listed" plastic pallets to be regulated like wood pallets, if test data can demonstrate that the burning and suppression characteristics of plastic pallets are equivalent to or better than wood pallets.

Earlier this year, UL conducted a series of fire tests in its Large-Scale Fire Test Facility in Northbrook, Ill. These tests were used to measure the burning and suppression characteristics of wood pallets. Wood pallets were stacked beneath a sprinklered ceiling and ignited. Other tests measured the effects of fire on commodity classifications stored on different wood types. The results of these tests were used to develop a baseline for comparison with plastic pallets.

Data collected from this research were used to develop a new Standard, UL 2335, Classification Flammability of Plastic Pallets. Test protocol for UL 2335 includes idle storage and commodity classification tests, consistent with the requirements of NFPA 231 and NFPA 231C. Plastic pallets must perform better or equal to wood pallets in both tests to meet the requirements of UL 2335.

For example, the time allowed for fire to spread to the end of plastic pallet stacks during an idle storage test is seven minutes or more, because the fire spread on wood pallets takes seven minutes. Other criteria used to compare the behavior of plastic pallets to wood during fire testing are the number of activated sprinklers, structural steel temperatures and stack stability.

Commodity classification tests are conducted using a standard Class II commodity stored on plastic pallets. Class II commodities include items such as glass bottles filled with non-flammable liquids (e.g., juices, soft drinks), metals or noncombustible food items (e.g., frozen foods, meats, produce) stored in paper wrappings, slatted wooden crates, or corrugated cardboard boxes of various thicknesses. Commodities are ranked Class I,

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II, III or IV, with Class I being the least hazardous and Class IV being the most hazardous.

These tests measure the amount of heat released by commodities or contents stored on plastic pallets, such as those found in real-life warehouse applications. If heat release results demonstrate that the plastic pallets do not increase the heat generated by the Class II commodities during the fire test, then the commodity classification of the plastic pallets is equivalent to wood.

Pallets manufactured by GE Plastics, of Pittsfield, Mass., were the first to earn certification under UL's Plastic Pallet Classification Program. In idle storage tests, the GE Plastics pallets activated nine fewer sprinklers than the minimum of 13 allowed for wood pallets. Sprinklers also extinguished the fire in less than 15 minutes, compared to 30 minutes or more for wood pallets. In addition, the Class II ranking did not change the classification of commodities stored on the pallets made by GE Plastics.

Plastic pallets evaluated by UL will carry a Classification label indicating they have met the requirements of UL 2335. UL expects to send a first draft of UL 2335 out for public comment in early 1999. For more information about UL's Plastic Pallet Classification Program, call Chris McKeever in Northbrook, Ill., at +1-847-272-8800, ext. 43584; or fax him at +1-847-272-2020.

This information is from a printed version of our newsletter, and is presented here for archival purposes only. For current information, please see the UL webpage devoted to this subject.

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